

CLAIMS

1. A plasmid vector characterized by comprising a promoter sequence to control an expression of a desired
5 gene, said promoter sequence being recognized by an RNA polymerase not inherent to a host, and a replication origin for increasing a copy number by induction with an exogenous factor.

10 /2. The plasmid vector according to claim 1, wherein said promoter sequence is recognized by RNA polymerases derived from bacteriophages.

15 /3. The plasmid vector according to claim 2, wherein said promoter sequence is recognized by an RNA polymerase derived from SP6 phage.

4. The plasmid vector according to claim 3, wherein said promoter sequence contains the base sequence of SEQ ID
20 NO:30 set forth in the Sequence Listing.

5. The plasmid vector according to any one of claims 1 to 4, wherein said replication origin is under control of a promoter.

6. The plasmid vector according to any one of claims 1 to 5, wherein said replication origin is under control of the lac promoter.

5 7. The plasmid vector according to any one of claims 1 to 6, comprising a drug resistance gene as a selection marker.

10 8. The plasmid vector according to claim 7, which is selected from pACE601, pACE611, pACE701 and pACE702.

15 9. A plasmid vector in which a desired gene to be expressed is incorporated into the plasmid vector according to any one of claims 1 to 8.

20 10. A method for expressing a desired gene, characterized by introducing into a host a plasmid vector in which the desired gene is incorporated into the plasmid vector according to any one of claims 1 to 8, and an RNA polymerase gene which recognizes a promoter sequence in said plasmid vector, and inducing an increase in a copy number of said plasmid vector and an expression of said RNA polymerase by using an exogenous factor to transcribe and translate the desired gene.

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11. The method for expressing a desired gene according to claim 10, characterized in that the increase in the copy number of the plasmid vector and the expression of the RNA polymerase are induced by respective exogenous factors.

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12. The method for expressing a desired gene according to claim 10, characterized in that the increase in the copy number of the plasmid vector and the expression of the RNA polymerase are induced by a same exogenous factor.

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13. The method for expressing a desired gene according to any one of claims 10 to 12, wherein said exogenous factor which induces the increase in the copy number of the plasmid vector, is one or more selected from the group consisting of an addition of isopropyl- β -D-thiogalactoside (IPTG), an addition of lactose, an addition of galactose, an addition of arabinose, a reduction of a tryptophane concentration and an adjustment of a transformant cultivation temperature.

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14. The method for expressing the desired gene according to any one of claims 10 to 12, wherein said exogenous factor which induces the expression of the RNA polymerase, is one or more selected from the group consisting of an addition of isopropyl- β -D-thiogalactoside (IPTG), an

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addition of lactose, an addition of galactose, an addition of arabinose, a reduction of a tryptophane concentration and an adjustment of a transformant cultivation temperature.

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15. The method for expressing a desired gene according to claim 10, characterized in that said RNA polymerase gene is introduced into the host by the other plasmid vector or a phage vector.

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16. The method for expressing a desired gene according to claim 10, characterized in that said RNA polymerase gene is incorporated into a chromosome of the host.

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17. The method for expressing a desired gene according to claim 15 or 16, characterized in that said RNA polymerase gene is derived from SP6 phage.

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18. The method for expressing a desired gene according to any one of claims 10 to 17, wherein said desired gene encodes a protein lethal or harmful to the host.

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19. The method for expressing a desired gene according to any one of claims 10 to 18, characterized in that *Escherichia coli* is used as the host.

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20. A method for isolating a desired gene, characterized in that the plasmid vector according to any one of claims 1 to 8 is employed in the method for isolating the desired gene.

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21. The method for isolating a desired gene according to claim 20, wherein said desired gene encodes a protein lethal or harmful to a host.

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22. The method for isolating a desired gene according to claim 21, wherein the gene encoding a protein lethal or harmful to the host is a restriction endonuclease gene.

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23. A polypeptide containing the entire or a portion of the amino acid sequence shown by SEQ ID NO:1 set forth in the Sequence Listing, and possessing an activity of AccIII restriction endonuclease.

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24. A polypeptide having an amino acid sequence resulting from at least one of deletion, addition, insertion or substitution of one or more amino acid residues in the amino acid sequence of SEQ ID NO:1 set forth in the Sequence Listing or a portion thereof, and possessing an activity of AccIII restriction endonuclease.

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25. A DNA encoding a polypeptide which contains the entire or a portion of the amino acid sequence shown by SEQ ID NO:1 set forth in the Sequence Listing, and possesses an activity of AccIII restriction endonuclease.

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26. A DNA containing the entire or a portion of the DNA shown by SEQ ID NO:2 set forth in the Sequence Listing wherein an expression product of said DNA possesses an activity of AccIII restriction endonuclease.

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27. A DNA encoding a polypeptide resulting from at least one of deletion, addition, insertion or substitution of one or more amino acid residues in the amino acid sequence of SEQ ID NO:1 set forth in the Sequence Listing or a portion thereof, and possessing an activity of AccIII restriction endonuclease.

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28. A DNA capable of hybridizing to the DNA according to ~~any one of claims 25 to 27~~, and encoding a polypeptide possessing an activity of AccIII restriction endonuclease.

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